One poll showed overwhelmingly people said fix the schools, we need to fix up the schools. Fixing up the schools means in some cases repairing existing schools that can be fixed. Fixing up the schools in some cases means modernizing the school, dealing with asbestos problems and being able to wire the school so they can have computers and get on the Internet. Fixing some schools and some problems in areas means they want new security measures taken and they need to have some capital items taken care of in terms of security. In most cases, fixing up schools means they need to build some new schools. Ten billion dollars per year is proposed.

I have a bill which would authorize that by using provisions in the Elementary and Secondary Education Act. We will be marking up the Elementary and Secondary Education Act, the rest of it, next week, I am told, in our committee. I am on the Committee on Education and the Workforce and the chairman of the Committee on Education and the Workforce is one of those people who adamantly opposes spending a dollar for school construction, but he is in favor of education being cited as a number one priority.

The Republican candidate for President, Mr. Bush, is in favor of education action by the Federal Government because he understands it is a number one priority. He is going to have a great education program but he has ridiculed the idea of spending money for school construction. In fact, in a very strange dialogue, I heard him say on television we should not spend money on school construction; bricks and mortar are not important.

The Democratic candidate, AL GORE has said he is willing to mount a program of $115 billion for education reform over the next 10 years. He is moving in the right direction. How much of that will be committed to school construction? That is my question.

I have here a hard hat that I carry around as a symbol of where we need to go. We need to let the builders of America take over to end this number one problem. One cannot solve any of the problems in education until they deal with the problem of physical infrastructure. We are winning, though, because the President moved beyond his proposal for bonds and interest and he put $1.3 billion in the budget for immediate repairs. We are winning.

I understand the Republicans have also agreed to the bond proposal. We are winning. They need to hear from the American people that not only is education a priority but number one in education is school construction.

MTBE, A PROBLEM FOR THE WHOLE NATION

The SPEAKER pro tempore (Mr. KUYKENDALL). Under the Speaker's announced policy of January 6, 1999, the gentleman from Iowa (Mr. GANSKE) is recognized for 60 minutes as the designee of the majority leader.

Mr. GANSKE. Mr. Speaker, on January 16, 60 Minutes broadcast into the homes of millions of Americans an important story about water quality. A chemical additive is used to improve a car's performance and clean the air. It has seeped into groundwater supplies throughout the Nation. It makes water stink. It causes water to smell and taste like turpentine, and the U.S. Environmental Protection Agency thinks it may cause cancer.

This chemical is methyl tert-butyl ether, MTBE.

Mr. Speaker, here is a sample of MTBE in this vial. If I smell this, oowee, this stuff smells bad. I will say something else. It takes only one teaspoon of this stuff to make an Olympic-sized swimming pool smell and taste like this sample, like turpentine.

This little vial here contains several teaspoons of MTBE. 60 Minutes reported that MTBE-contaminated water is being found all across the country, in places like Santa Monica, Albuquerque, Denver, Dallas, among other places.

Water wells in Long Island and New Jersey are contaminated with this stuff. One could say, okay, I can see how it got into the water there. A lot of MTBE is used in those markets.

Well, I want to say something. It is not only a problem in those high-use areas. Last month, Iowa's Department of Natural Resources issued a report that showed that 32 percent of groundwater samples had MTBE levels of at least 15 micrograms per liter.

What is worse is that 29 percent of the groundwater samples had MTBE concentrations above the level at which EPA issues a drinking water advisory. Think about this. There is no MTBE sold or used in Iowa today. Yet 29 percent of groundwater samples in Iowa qualify for a Federal drinking water advisory due to contamination of this product.

So how can that be? Well, probably some of it is residual from years before when an MTBE might have been used in my State.

□ 2245

But much of MTBE comes from cars just driving through Iowa or maybe from two cylinder engines spewing MTBE blended gasoline.

These few teaspoons of MTBE will contaminate several Olympic-sized swimming pools. Let us assume that this vial contains 2 ounces of MTBE. It probably contains less. But for the sake of argument, let us say it is 2 ounces. To comply with the oxygenate requirement of the Clean Air Act, MTBE must be added at a volume of 11 percent.

In a large sport utility vehicle with a gasoline tank capacity of 25 gallons, this means that approximately 128 of these vials are being carried around in sport utility vehicle gas tanks. If that sport utility vehicle gas tank were to empty into a lake, that amount of MTBE would contaminate about 375 Olympic-sized pools.

To further demonstrate the potency of this chemical, those 128 vials of MTBE would render 71.5 million gallons of water undrinkable. And MTBE moves through water very quickly. It is incredibly difficult and expensive to remove.

Mr. Speaker, we must address this issue now. What is the problem? Why do we not just ban MTBE? Well, this is where the issue of clean air arises. When I mentioned that MTBE makes fuel burn cleaner, this is because it adds oxygen to the gasoline.

The Clean Air Act amendments of 1990 established what is called the Reformulated Gasoline Program to address poor air quality in the Nation's most polluted cities. To achieve cleaner air, Congress required refiners in reformulated gasoline areas to blend 2 percent by weight of an oxygenate into their gasoline.

Now, this practice has produced significant air quality improvements throughout the Nation by dramatically reducing harmful automobile emissions; therefore, we simply cannot remove MTBE without replacing it with another oxygenate.

Some have recommended eliminating the oxygen requirement altogether, arguing that will solve the MTBE problem, that would trade air quality for water quality, and that is not an acceptable solution, nor is it necessary.

Nonetheless, on Monday, the administration released a set of legislative principles regarding the problems associated with MTBE. They recommended that Congress do the following: First, phase out or eliminate MTBE. I think that is a good idea. I am glad the administration has finally decided to take an official position on this issue.

Their second point, ensure air quality gains are not diminished, and I say right on. The reformulated gasoline program of the Clean Air Act has produced terrific reductions in automobile emissions. I am glad that the administration decided to take an official position on environmental positions.

Third, the administration said replace the 2 percent by weight oxygen requirement with a 1.2 percent by volume renewable fuels standard. Now, this is where I have some concerns.

The administration identified MTBE as the problem and also committed to ensuring air quality, but then it abandons the program which has produced air quality benefits for millions of Americans, the oxygen requirements of the Clean Air Act.

I want to read to you a quote from testimony submitted to the Committee on Commerce on May 6 by Bob

Perciasepe, assistant administrator of air and radiation at the EPA who said, quote, ozone has been linked to a number of health effect concerns, ozone. Repeated exposures to ozone can make people more susceptible to respiratory infection, result in lung inflammation and aggravate preexisting respiratory diseases, such as asthma. Other health effects attributed to ozone exposures include significant decreases in lung function and increased respiratory symptoms, such as pain, chest pain and coughing.

Mr. Perciasepe continues, quote, reformulated gasoline is a cost effective way to reduce ozone precursors, such as volatile organic compounds or nitrogen oxides when compared to other air quality measures.

The Clean Air Act amendments of 1990 required that reformulated gasoline contain 2 percent minimum oxygen content by weight. The first phase of the reformulated gasoline program from 1995 through 1999 requires average reductions of ozone forming volatile organic compounds and toxics of 17 percent each and of nitrous oxides by 1.5 percent.

His testimony continues, quote, in the year 2000, the second phase of the reformulated gasoline program will achieve even greater average benefits, a 27 percent reduction in volatile organic compounds, 22 percent reduction in toxics, and a 7 percent reduction in oxides of nitrogen emissions that also contribute to the formation of urban smog. This is equivalent to taking more than 16 million vehicles off the road.

Mr. Perciasepe finishes by saying ''reformulated gasoline provides these reductions at a cost of less than 5 cents per gallon.'' The reductions, Mr. Perciasepe outlined, were required in the Clean Air Act amendments of 1990; however, he continued to discuss the real world benefits of the reformulated gasoline program.

He said ''since 1995, reformulated gasoline on average has exceeded expectations for volatile organic compounds, nitrous oxides and toxic reductions. Most notably, overall, toxic reductions are about twice that required, with about a 30 percent reduction versus a 17 percent requirement. It is estimated that about two-thirds of the additional air toxic reduction is a result of the use of oxygenates.''

That is a significant reduction in emissions beyond what is required. In addition, when developing EPA's complex model for evaluating emissions, the Auto Oil Research Program found that oxygenates in gasoline reduce tailpipe emissions of carbon monoxide by 15 to 20 percent.

Why on earth, I ask you, would we want to abandon such a successful program? Why has the administration turned its back on sound scientific evidence that its own EPA administrators present to Congress? Well, I will tell you why. It is because the product of this vial, this stuff contaminates water.

Despite the administration's call for Congress to protect air quality advances in advocating an elimination of the oxygen standard, the administration is saying we must choose between clean air and clean water.

Mr. Speaker, we do not have to choose between clean air and clean water. We do not have to abandon the successful reformulated gasoline program because MTBE contaminates the water, just replace the MTBE with another oxygenate, a safe one, ethanol. Some of my colleagues and, evidently, the administration believe that MTBE and oxygen are synonymous.

Even 60 Minutes said ''how did MTBE end up in gasoline? Well, 10 years ago Congress told the oil companies to put it there, either MTBE or some other oxygenate that would make the gasoline burn cleaner.''

I want my colleagues in Congress, members of the administration and the media to understand a very important point, nowhere in the EPA regulations or in the Clean Air Act does it say that refineries must blend MTBE in their gasoline to comply with the requirements of the reformulated gasoline program.

It just so happens that refiners chose MTBE in large quantities to ensure compliance. Now, why did they do this? Well, because this product, MTBE, is an oil product. The refiners can make MTBE right in their existing facilities or they can purchase it from oil suppliers. The availability of this stuff compelled many to turn to it exclusively.

Now, I understand the economic motivation, but neither Congress, nor EPA required them to use MTBE. Refiners made that decision on their own, and it turns out it was a very bad decision.

Now, if you want to solve the MTBE problem, ban MTBE. The administration is on the right track in that regard. But when you remove MTBE and lift the oxygen requirement, you introduce a whole new set of environmental problems.

We have to fix real problems, like MTBE water contamination, we should not abandon real solutions, like oxygenated fuels.

Last month Dr. Michael Graboski, director of the Colorado Institute of Fuels and Higher Altitude Engineer Research, testified before the Committee on Commerce about the characteristics of oxygenated fuels. He told us that oxygenates in gasoline replace aromatics to increase the fuel's octane. That is a good trade-off, because aromatic compounds are highly toxic, and some, like benzene, are known human carcinogens. They cause cancer.

Dr. Graboski told us that if the oxygenate requirement is lifted, refiners will replace oxygenates with aromatics resulting in more potent toxic emissions. The level of potency measures the degree or strength to which certain compounds pose a risk to human health.

Dr. Graboski said ''the toxic potency of aromatics and their combustion byproducts are, in many cases, orders of magnitude greater than the potency of oxygenates or their combustion byproducts.'' To explain this he said ''all toxics are not created equal, but the mass standard of the Clean Air Act treats them as equal.

Let me be clear, the oxygen requirement in reformulated gasoline has a real and substantial benefit because clean burning oxygenates are substitutes for highly toxic aromatics.''

Well, to test Dr. Graboski's assertion that aromatics would be used to replace oxygen if MTBE were banned, I asked Mr. Bob Campbell, CEO of Sunoco, I asked Mr. Campbell if the oxygen requirement was waived and MTBE was phased out, what would you use in your gasoline to ensure emissions reductions do not rise? He responded, ''I would expect that the first hydrocarbon that would go in would be potentially some toluene.''

Mr. Speaker, toluene is one of those toxic aromatics that Dr. Graboski warned about. In summary, if we remove oxygenates from gasoline, refiners will replace them with aromatics. The emissions from many of these aromatics are cancer-causing. Furthermore, the toxics that are emitted from aromatics are more dangerous to human health than the toxics emitted from oxygenated fuels. So we should not regress to a market of gasolines with high aromatic content.

What does this all mean? It means if you want to solve the problem of water contaminated with MTBE, ban MTBE. If you want to maintain clean air, use oxygenated fuels. Fortunately, these are not mutually exclusive goals. We do not have to choose between clean air and clean water. The administration's legislative proposal makes a false choice. It does not solve the problem, but it potentially creates new problems.

□ 2300

So I have introduced legislation, along with the gentleman from Illinois (Mr. SHIMKUS) that solves this problem and, unlike the administration's proposal, does not create new ones. My bill, H.R. 4011, the Clean Air and Water Preservation Act of 2000, addresses the problems of MTBE in gasoline and in water, preserves the air quality benefits of the Clean Air Act, and promotes renewable ethanol.

Specifically, my bill will first, phase out MTBE in 3 years and urge refiners to replace it with ethanol. Ethanol is a much more environmentally friendly oxygenate than MTBE. Based on EPA's

1998 complex model comparing an 11 percent volume blend of MTBE with a 10 percent volume blend of ethanol, as used in the oxy-fuels program, we find that both products produce equivalent emissions reduction of aromatics, olefiants, volatile organic compounds and nitrous oxides. The toxic emissions of ethanol-blended gasoline are less potent than those emitted from MTBE-blended fuels. Using 1.00 as the potency for toxic emissions from nonoxygenated fuels, i.e. regular gasoline without any oxygenated compounds, the potency of MTBE computes to 0.94, while the potency of ethanol is 0.875. Ethanol is less toxic than MTBE in emissions.

Furthermore, when MTBE is spilled into water, it causes considerably more trouble. As I mentioned before, this vial, the small vial with an ounce or so can contaminate several Olympic-sized swimming pools. On another scale, one could take 1 gallon of this chemical, just 1 gallon of MTBE and it will contaminate 26 million gallons of water. The high solubility of this compound, MTBE in ground water, causes its high mobility. It is also resistant to bio breakdown. This allows it to spread very quickly and it allows it to stay in the water for a long, long time.

On the other hand, ethanol does not have a negative effect on water quality. Its movement and persistence in ground water is controlled primarily through biodegradation and it rapidly breaks down in virtually any environment. Ethanol is a naturally occurring product; it is produced during the fermentation of organic matter; it has been found to occur naturally in lake sediments, the tissue of living and decaying plants, in sewage sludge and many other environments. Also, plants are known to metabolize ethanol and incorporate the carbon from ethanol into plant tissues. As a bio-based, naturally occurring product, ethanol represents an environmentally friendly alternative to this stuff, MTBE.

As we say in Iowa, Mr. Speaker, with ethanol, we can drink the best and we can drive the rest.

In order to replace MTBE in the Nation's fuel supply, the ethanol industry must produce about 3.1 billion gallons each year. That is the estimate. Last year, the industry estimated its production capacity at 1.8 billion gallons, but since then, several new plants have come on board, increasing capacity by several hundred thousand gallons and pushing the new capacity to above 2 billion gallons per year. It will not be difficult for many of the existing ethanol plants to increase their production. Ethanol processing units are modular and they can be expanded at relatively low cost.

With this ability to increase production, the ethanol industry would be able to satisfy the demands of the reformulated gasoline program by the time the bad stuff is phased out. Adequate transition time is necessary.

Besides replacing MTBE with ethanol, my bill would also address existing water contamination, as I mentioned earlier. Areas of this country are struggling to find clean water. Santa Monica must import all of its water because its own groundwater is contaminated. South Lake Tahoe is in the same dire straits. Long Island is surrounded by contaminated water. We cannot address the MTBE problem by only removing MTBE from gasoline. The MTBE contamination I mentioned in Iowa is relatively minimal compared to these other communities, but my own constituents are concerned also. My bill would direct the Federal Government to own up to its share of its responsibility and do what it can to help these communities figure out how to clean up the existing contamination.

Mr. Speaker, I have a copy of a memorandum from the U.S. EPA from 1987. At this time, EPA reported that ''Known cases of drinking water contamination have been reported in 4 States. These cases affect individual families as well as towns of up to 20,000 people. It is possible that this problem could rapidly mushroom due to leaking underground storage tanks at service stations. The tendency of MTBE to separate from the gasoline mixture into groundwater could lead to widespread drinking water contamination.''

Mr. Speaker, that is in this EPA memo from 1987. I submit this document for the RECORD.

ENVIRONMENTAL PROTECTION AGENCY,
Washington, DC.

MEMORANDUM

Subject: Division Director Briefing for Methyl tert-Butyl Ether (MTBE)

From: Beth Anderson, Project Manager, Test Rules Development Branch (TS–778)

To: Addressees

Attached are the briefing materials for the course setting meeting on MTBE. The meeting is scheduled for Monday, April 13, 1987 in Room 103 of NE Mall at 11 am to noon. Please bring the attached information with you at that time.

Attachment.

METHYL TERT-BUTYL ETHER (1634–04–4) COURSE-SETTING RECOMMENDATIONS

(1) ITC recommendations: (Recommended with intent-to-designate November 1, 1986)

A. Health Effects:

(1) Chronic inhalation toxicity including neurotoxic, hematologic, and oncogenetic effects.

B. Chemical Fate:

(1) Monitoring studies to determine typical concentrations of MTBE in the breathing zone of workers and consumers at sites where MTBE-containing gasoline is being transferred, including gasoline terminals and service stations.

Rationale: The basis for these concerns was: the dramatic increase in T–MTBE production and use in the past few years. As lead is phased out, MTBE has filled the role of octane enhancer which is added to many gasoline blends. Workers and consumers are exposed to vapor emissions via skin contact and inhalation when transferring MTBE or MTBE-containing gasoline.

(2) TRDB Recommendations

A. Finding 4(a)(1)(B)

There was a production capacity of approximately 4 billion pounds for MTBE in 1986. At least two major companies are building new plants to produce MTBE. NIOSH estimates worker exposure at 2,571 workers, but it is unclear during what processes these workers are exposed. There are 189,200 ''private'' service stations and approximately 300,000 service station attendants, so exposure to MTBE vapor is greater than the NIOSH estimate.

Concern about MTBE in drinking water surfaced after the ITC report was published. Known cases of drinking water contamination have been reported in 4 states. These cases affect individual families as well as towns of up to 20,000 people. It is possible that this problem could rapidly mushroom due to leaking underground storage tanks at service stations. The tendency for MTBE to separate from the gasoline mixture into ground water could lead to wide spread drinking water contamination.

(3) Background information

A. Chemical Description

Methyl tert-butyl ether (or 2-methoxy-2-methyl propane) is a clear liquid with a vapor pressure of 245 mm Hg. The water solubility of MTBE has been estimated at 40,000 to 51,260 mg/L. The high value of the Henry's law constant, 5.8 10^{-4}, indicates that MTBE will volatilize from water. The estimated halflife of MTBE is 2.5 hours in a stream and 137 days in a 50 m deep lake. The halflife of MTBE in the air is estimated between 3 to 6 days based on the reaction of MTBE with hydroxyl radicals in polluted and normal atmospheres respectively.

B. Manufacturing Process and Use

MTBE is made from isobutylene and methanol in the presence of an acidic ion-exchange resin catalyst in the liquid phase at temperatures between 30–100°C and 7–14 atm. MTBE can be manufactured in either a 1 or 2 stage reactor. Chemical Marketing Reporting estimated that MTBE production will grow 19% per year between 1985 and 1990. MTBE is used almost exclusively as an octane enhancer in unleaded gasoline. Typical MTBE content ranges from 2–8% by volume, although use of up to 11% by volume has been approved by EPA.

Minute quantities of MTBE have been used in an experimental procedure to dissolve gallstones using injection of MTBE through a catheter. MTBE is also used as a solvent in some liquid chromatography procedures.

Issues

(1) Mode of exposure for health effects testing.

ECAD recommends that the potential hazards due to dermal, oral and inhalation exposure be evaluated. Two 90-day subchronic tests, one by oral route, one by inhalation should be conducted. A pharmacokinetics study relating dermal, oral, and inhalation exposure should also be done. EPA will use the results of this testing to determine the route of exposure for the bioassay and remaining tests.

(2) ITC request for monitoring study to determine MTBE vapor concentrations at sites of MTBE-containing gasoline transfer.

ECAD does not recommend a monitoring study for MTBE vapor. ECAD believes that studies of gasoline vapor release can be combined with information on MTBE vapor concentration above MTBE-containing gasoline to estimate consumer exposure to MTBE vapor. Contacts with regional offices have been made to determine if there is regional interest in monitoring information.

(3) ECAD recommends adherance to the previous OTS policy of requiring the end points obtained in a two generation reproduction and fertility study. A single generation reproduction/fertility study by inhalation was submitted under TSCA 8(d).

Tests	Maxi–B	Full–B	8(d) Submissions	
			Adequate	Not adequate
Sub chronic	.....	X	.....	X
Oncogenicity	X	[1]X	.....	.....
Developmental Toxicity	X	X	?	.....
Reproduction and fertility	X	X	.....	X
Gene Mutation	X	X	?	.....
Chromosomal Aberrations	X	X	.....	.....
Neurotoxicity	X	X	.....	.....
Pharmacokinetics	X	.....	.....	X
Dermal Sensitization	X	X	.....	.....

[1] Trigger.

Mr. GANSKE. Mr. Speaker, because the EPA knew the potential for widespread MTBE water contamination back in 1987, I think it shares some responsibility in helping States remedy contaminated water supplies. Therefore, my bill raises the importance of MTBE within the Safe Drinking Water Act and directs EPA to provide technical assistance to States for the removal of MTBE from water. It is essential that these communities receive some support in their efforts to reclaim their drinking water supplies.

My bill would also address concerns about the volatility of ethanol during warm weather months by allowing oxygen-averaging. Some opponents of ethanol have claimed that its higher volatility during warm months makes it inappropriate for use in some markets. The Clean Air Act amendments of 1990 required that refiners blend 2 percent oxygen by weight into all gasoline sold in the reformulated gasoline program. However, when enacting the law, the EPA inserted into the regulations a minimum per-gallon oxygen content requirement. Refiners have said this per-gallon requirement is too restrictive.

My bill, H.R. 4011, strikes that regulation in order to allow refiners flexibility in complying with the Clean Air Act. By providing refiners with that flexibility, they can decide how best to blend oxygen into their gasoline. They would be able to increase the gasoline content in high octane fuels and reduce it in lower octane fuels, as best fits their business plan. They would also be able to increase oxygen content during winter months and reduce it during summer months. As long as they averaged 2 percent content-by-weight through the year, they would be in compliance. This would help them address the volatility of ethanol during warm weather and maximize the blending formulations of their gasoline. However, when providing that flexibility, we must not allow emissions levels to increase. Therefore, my bill includes stringent anti-backsliding environmental protections.

Bob Perciasepe of the EPA testified that oxygenated fuels of the reformulated gasoline program have greatly exceeded the expectations for emissions reductions. Therefore, when we consider any legislation that amends this portion of the Clean Air Act, it is essential that we take these real-world achievements into consideration and ensure that emissions do not exceed those levels. The Clean Air and Water Preservation Act of 2000 raises the bar of the Clean Air Act emissions requirements to real-world, more environmentally sound levels being experienced in the reformulated gasoline program today.

□ 2310

At no time in reformulated gasoline areas will the emissions levels be allowed to exceed those currently achievable by fully oxygenated fuels. Therefore, while the bill gives refiners a flexibility to market a variety of fuel blends, it ensures that the air quality in the reformulated gasoline areas is not negatively impacted. That is sound environmental legislation.

Yet, controlling emissions is not sufficient. As I mentioned earlier, if we reduce the use of oxygenates in gasoline, refiners may add more aromatics. That is not acceptable. Therefore, H.R. 4011 prohibits refiners from increasing the aromatic content of gasoline above current levels.

Finally, H.R. 4011 directs the EPA and the Department of Energy to work on developing alternative oxygenates. Ethanol is a ready, viable alternative. But we can seek many different sources of oxygen.

I believe H.R. 4011 effectively solves the MTBE problem in both gasoline and water. It protects the environment. It promotes the expanded use of the renewable fuel ethanol. We do not have to choose between clean air and clean water. With ethanol, we can have both.

I think it is very important that we promote renewable fuels. By replacing MTBE with ethanol, as my bill does, we will greatly increase the use of renewable fuels in this country. Under this bill, the use of renewable ethanol would increase from 1.5 billion gallons last year to more than 3.1 billion gallons in the year 2004. That increased usage would be spread throughout the Nation benefiting air and water quality and reducing the use of fossil fuels.

The administration's proposal does not promote an expanded use of renewable fuels. It holds its use at the status quo. For example, if the administration's 1.2 percent average renewable content provision would be enacted into law, it would not increase the use of renewable fuels in America. Rather, it would set a floor for the use of renewable fuels below which the refining industry could not drop. Well, that floor is equivalent to the current level of renewable fuel used throughout the Nation. That is the status quo.

The administration's proposed 1.2 percent would be the average volume content of all gasoline sold throughout America, not just in reformulated gasoline areas. So the likely outcome would be a concentration in the use of ethanol and biodiesel in the Midwest with no discernible increase in the use of renewable fuels in other parts of the country. That would not greatly advance our energy security, nor expand the potential for a renewable market.

If the administration is truly sincere about promoting the use of renewable fuels like ethanol and biodiesel, it should simply encourage Congress and refiners to replace MTBE with ethanol. That would more than double the use of renewable fuels throughout the Nation rather than stagnating their use at our current levels. It would reduce our dependence on fossil fuels.

Those concerned with the human impacts on climate change and emissions of greenhouse gases should pay close attention to this. While the use of ethanol and gasoline has not been shown to significantly reduce emissions in greenhouse gases from automobiles, it does significantly replace the use of fossil fuel components in gasoline. That helps reduce the fossil fuel contribution to greenhouse gas emissions.

My bill would greatly enhance the market potential for renewable fuels. Expanding the role of ethanol is a vital component of renewable energy. This bill is the best way to accomplish this.

In addition to the environmental benefits of renewable fuels like ethanol, the Department of Agriculture has clearly demonstrated a positive impact on ethanol on America's agricultural community.

A report by the USDA details the benefits America's farmers will experience if we replace MTBE with ethanol. It would increase demand for corn by more than 500 million bushels per year. It would increase the average price of corn by 14 cents per bushel each year through the year 2010. It would create 13,000 new jobs by the year 2010. It would increase the average total farm cash receipts by an average of $1 billion each year.

It would significantly reduce the need for emergency agricultural assistance payments, something that my colleagues spoke about tonight when they were talking about the budget, or at least they should have. It would increase U.S. agricultural net export value by more than $200 million each year.

Mr. Speaker, I submit the USDA report for the RECORD, as follows:

ECONOMIC ANALYSIS OF REPLACING MTBE WITH ETHANOL IN THE UNITED STATES

This paper analyzes the effects of replacing MTBE with ethanol. The analysis assumes that the current Federal oxygen content requirement for reformulated gasoline (RFG) is continued. The following issues are examined: The effects on farm prices and net farm income; the effects on U.S. trade; the effects

on employment in the United States; the effects on Department of Agriculture (USDA) farm program spending from increased demand for corn attributable to greater ethanol production; and the logistical issues associated with supplying substantial quantities of ethanol to new markets, including an assessment of the capacity for transporting and storing ethanol to meet the demands of these markets.

ASSUMPTIONS AND ANALYTICAL PROCEDURES

Although California has decided to phase-out MTBE by 2002, most other states have not taken any actions regarding the use of MTBE. This analysis assumes all MTBE in the United States is phased-out and replaced with ethanol. In order to allow for production capacity and other infrastructure adjustments, the phase-out is assumed to begin in 2000 and end in 2004 when all oxygen demand for the RFG and carbon monoxide (CO) markets is met with ethanol. In addition, the analysis assumes Congress maintains the oxygen standards adopted by the Clean Air Act Amendments of 1990; the current gasoline oxygen requirement in California for Federal RFG is maintained; all new ethanol capacity brought on comes from large dry mills; 90 percent of U.S. ethanol is produced from corn, with the remaining 10 percent produced from sorghum, barley, wheat, and waste products. The rate at which ethanol replaces MTBE is assumed to start out gradually and accelerate over time as the ethanol industry expands capacity to meet the increase in demand.

An economic model of the U.S. agricultural sector was used to estimate the effects of replacing MTBE with ethanol on the U.S. agricultural economy over the period 2000–2010. The econometric model, the Economic Research Service's Food and Agricultural Policy Simulator (FAPSIM), estimates production, use and prices of major crops and livestock products; retail food prices; and net farm income. The method of analysis compares projections of market variables under a baseline that assumes continued use of MTBE with projections of those variables under the assumed 4-year phase-out of MTBE.

The baseline for the analysis is the President's FY 2000 Budget projections. The baseline assumes provisions of the Federal Agriculture Improvement and Reform Act of 1996 (1996 Farm Bill) continue through 2010. The baseline includes projections of farm prices, production, domestic use (including corn use for ethanol), exports, net farm income and food prices for the period 1999–2010.

The President's FY 2000 Budget projections are based on specific assumptions formulated at the end of last year regarding the macro economy, weather, and international developments. As a result, the baseline does not reflect the current very weak price situation for most major crops, including corn. However, over the next few years, crop prices are likely to improve as the world economy improves and as world grain and oilseed production declines in response to low prices and less favorable weather.

A 1992 input-output (I–O) multiplier model was used to estimate the effects of replacing MTBE with ethanol on U.S. employment. Data from the 1993 County Business Patterns (U.S. Department of Commerce) were used to estimate employment effects for the Corn Belt region.

MTBE PHASE-OUT SCENARIO

In 1998, about 1.5 billion gallons of denatured ethanol were consumed in the United States—about 384 million gallons were used in RFG and 1.1 billion gallons went to other markets such as the CO and octane markets (table 1). Before denaturing, corn-ethanol consumption equaled 1.3 billion gallons in 1998 and approaches 1.5 billion gallons in 2004 in the USDA baseline projections (table 2). In order to meet the oxygen needs met by MTBE, ethanol production under the MTBE phase-out would have to rise to 3.0 billion gallons in 2004. Some ethanol is assumed to be bid away from lower-value octane markets and move to RFG markets.

The volume of ethanol required in a gallon of RFG is less than MTBE volume because 5.7 percent ethanol replaces 11 percent MTBE, at 2 percent oxygen. The reduced volume of ethanol raises an issue of how the market will compensate for the volume reduction. This analysis concludes that refineries will replace volume and octane with increased alkylate production. Refiners with the processing capability will convert the isobutylene currently used for MTBE to alkylate. Alkylate has a high octane rating and can be used to produce premium gasoline. In addition, merchant producers looking for alternatives to MTBE production will purchase isobutylene from refineries and switch their MTBE production to alkylate. Thus, the feedstocks that were used to produce MTBE will remain in the gasoline pool in the form of alkylate. It is assumed that the current supply of isobutylene used in MTBE production is sufficient to produce enough alkylate to offset the volume shortage created by ethanol. Consequently, the analysis assumes the quantity of gasoline consumed in the United States is the same under the baseline and the MTBE phase-out scenario.

FARM EFFECTS

The MTBE phase-out is projected to increase the amount of ethanol produced from corn by 72 million gallons in 2000 and by 1.4 billion gallons per year in 2010 (table 2). The increase in ethanol production would increase the demand for corn above baseline by 28 million bushels in 2000 to over 500 million bushels per year beginning in 2004. The analysis assumes all of the increase in corn-ethanol production occurs in new dry mills, which produce 2.6 gallons of ethanol per bushel of corn, and 17 pounds of distillers dried grains (DDG) with 27-percent protein. DDG are assumed to substitute for soybean meal on an equivalent protein basis (table 2).

The increase in ethanol demand resulting from MTBE's phase-out is projected to increase the average price of corn by about $0.16 per bushel in 2010 and about $0.14 bushel annually over the study period, 2000–2010 (table 3). Higher corn prices cause feed use of other crops to increase, leading to price increases of other grains, including sorghum, barley, oats, and wheat. Soybean prices are projected to decline by less than 1 percent. Higher corn prices reduce soybean production, but the decline in production is about offset by lower demand for soybean meal resulting from the increase in DDG production. Soybean oil prices increase in response to lower soybean production, but soybean meal prices fall in the face of increased competition in the protein feed market.

For cattle, hog and dairy producers, feed costs increase as higher corn prices more than offset the drop in soybean meal prices (table 3). In contrast, poultry, turkey, and egg producers feed a higher portion of protein in their rations, and for these producers, feed costs decline. Generally, the effects on feed costs are very modest and there is little change in livestock production and prices. Milk, steer and hog prices are 1 to 2 percent higher, whereas poultry prices are 1 to 2 percent lower on average over the 2000–2010 period.

Total farm cash receipts are projected to average $1.0 billion higher during 2000–2010 compared with the baseline (table 4). Corn cash receipts rise due to higher prices and more production (table 5). Over the period 2000–2010, cash receipts for corn average $1.2 billion higher and increase by over $1.6 billion, or about 9 percent, during 2010 (table 5). Cash receipts for other feed grains and wheat also increase. In contrast, slightly lower production (less than 2 percent) and lower prices reduce soybean cash receipts by an average of $315 million per year. Total livestock cash receipts increase by less than 0.1 percent (table 6). Annual net farm income is projected to average over $1.0 billion higher during 2000–2010. Cumulatively over the 2000–2010 period, net farm income increases by about $12 billion (table 4).

EFFECTS ON TRADE

The MTBE phase-out is projected to increase prices for corn and other agricultural commodities causing the average U.S. agricultural net export value to increase by about $200 million per year (table 7). The export value for grains and feeds increase by about $225 million per year, while the export value of oilseeds and oilseed products decline slightly. The export value of livestock and animal products remains nearly unchanged.

The MTBE phase-out is expected to eliminate MTBE imports, since one third of the MTBE currently consumed in the United States is imported. Based on Energy Information Administration (EIA) gasoline consumption projections, MTBE consumption is expected to increase about 2 percent per year without an MTBE phase-out. Assuming that the current price of MTBE (about $0.72 per gallon) will increase by almost 1 percent annually, the import value of MTBE would average about $1.1 billion per year. Thus replacing MTBE with ethanol would reduce import value by $1.1 billion per year and almost $12 billion from 2000–2010 (table 7). The net increase in agricultural exports combined with the decrease in MTBE imports is projected to result in an average annual positive increase in the U.S. balance of trade of $1.3 billion per year.

EMPLOYMENT EFFECTS

Input-output analysis indicates that employment from increasing ethanol production to 3.4 billion gallons (denatured) in 2010 would create 13,000 additional jobs across the entire economy. Over a third of the new jobs, or 4,300, would be in the ethanol sector itself. Another 6,400 jobs would be in the trade and transportation and service sectors. Farm sector jobs increase by 575. Jobs in other industry, food processing, and energy sectors also increase by another 1,600 in 2010.

The Corn Belt region produces almost 80 percent of U.S. ethanol production. Thus, 80 percent of the new jobs in ethanol production, or about 3,600 jobs, are expected to occur in this region. In addition, the MTBE phase-out would create about 700 jobs in trade and transportation, 500 jobs in other services, and 400 jobs in energy, food processing and other industries in this region. The potential loss of U.S. jobs from reducing MTBE imports were not estimated.

FARM PROGRAM COSTS

The increase in ethanol production with a MTBE phase-out would be eligible for the Federal excise tax exemption on gasoline, or equivalent tax credit, which would reduce federal tax revenues. The exemption is currently $0.54 per gallon and it is scheduled to

drop to $0.53 on January 1, 2001, $0.52 on January 1, 2003 and $0.51 on January 1, 2005. Under the current law, the tax exemption expires on December 31, 2006.

Under the FY 2000 President's Budget baseline, farm crop prices are expected to strengthen from current levels, which results in increased ethanol use having little to no impact on the cost of farm price and income support programs during the projection period. While loan deficiency payments and marketing loan gains are currently forecast to reach $5.5 billion for the 1999 crops, these payments are projected to drop rapidly under the baseline after the current year under the projected price increases. And, since 1996 Farm Bill production flexibility contract payments are not tied to the level of market prices, these farm program costs do not fall as market prices for corn and other grains increase, compared with the baseline. However, farm prices are extremely volatile and farm prices and incomes could fall enough in the future to trigger loan deficiency payments and marketing loan gains and, possibly, emergency aid to offset declines in farm income. Higher corn and other grain prices under the MTBE phase-out would lessen the need for emergency relief and reduce loan deficiency payments and marketing loan gains should prices soften considerably from baseline levels. Where loan deficiency payments are being made, each $0.10 increase in corn prices could lower farm program outlays by about $1 billion per year.

TRANSPORTATION EFFECTS

Initially, ethanol is expected to be shipped by barge to the Gulf and distributed to fuel blenders through customary shipping channels. However, it is likely rail transport would play an increasing role as the demand for ethanol increases, and more rail connections between ethanol plants and refiners are developed. In the long term, several transportation options, including barge, rail, ocean vessels, and trucks would be available for moving ethanol. Given a period of 3–5 years, there appears to be no transportation impediment to the use of ethanol as a replacement for MTBE.

TABLE 1.—GASOLINE AND ETHANOL CONSUMPTION PROJECTIONS WITH MTBE PHASE-OUT [1]

Year	By billion gallons—projected [2] gasoline consumption	By million gallons—		
		Projected ethanol use in RFG (denatured) [4]	Projected [3] ethanol use in other markets (denatured) [4]	Ethanol production from all crops (denatured) [4]
1997	126	372	1,041	1,413
1998	125	384	1,142	1,526
1999	127	457	1,103	1,560
2000	132	514	1,170	1,684
2001	135	774	1,119	1,893
2002	137	1,403	918	2,321
2003	139	1,802	899	2,701
2004	141	2,347	784	3,131
2005	144	2,384	894	3,278
2006	146	2,419	858	3,277
2007	148	2,452	824	3,276
2008	149	2,510	791	3,304
2009	152	2,570	780	3,330
2010	153	2,627	729	3,356

[1] On an oxygen equivalent basis, 0.52 volume of ethanol replaces 1 volume of MTBE.

[2] Source: Energy Information Administration, Department of Energy. Total gasoline consumption is assumed to be the same under the baseline and under the MTBE phase-out.

[3] Ethanol use in other markets include CO market, State mandated markets and octane market.

[4] Ethanol is denatured with 5-percent gasoline.

Mr. Speaker, Congress paid approximately $22.7 billion in farm support programs last year. More than $15 billion of this was in emergency payments. We should pursue policies which will allow farmers to make a living off their land, not rely on government handouts.

A proposal which would hold the renewable fuels market to the status quo does not help farmers, as that report shows. Replacing MTBE with ethanol is a sensible agricultural policy we should enact, as well as a sensible environmental policy.

Now, several groups have reviewed the provisions of H.R. 4011 and have sent me letters expressing their reviews. I would like to share some of their comments with my colleagues.

The Renewable Fuels Association, the trade group that represents the domestic ethanol industry, writes: We are ''writing on behalf of the members of the Renewable Fuels Association to express the enthusiastic support of the domestic ethanol industry for Clean Air and Water Preservation Act of 2000. Your bill forthrightly addresses the growing national crisis of MTBE water contamination while preserving the air quality benefits of the RFG program and stimulating rural economies by increasing the demand for clean-burning fuel ethanol.''

''Clearly, the Clean Air and Water Preservation Act of 2000 meets'' these requirements. ''By phasing down MTBE use over three years, the bill protects water supplies of every citizen''. ''The bill's anti-backsliding provisions, particularly the cap on aromatics, assures'' air quality standards. ''The legislation also provides refiners with significant flexibility and encourages the development of alternative oxygenates so that the transition from MTBE can be made without disruptions in gasoline supplies or increases in prices.''

The National Corn Growers Association says: ''With oil prices at their highest levels in many years, it is clear that ethanol not only should be used because it benefits public health, but also because it reduces our dependence on foreign oil.''

We are writing ''on behalf of the 31,000 members of the National Corn Growers Association in support of your bill entitled the Clean Air and Water Preservation Act of 2000.''

The American Farm Bureau Federation sent the following bulletin to its State offices yesterday. They wrote that the ''Farm Bureau supports H.R. 4011, the Clean Air and Water Preservation Act, sponsored by Representative GREG GANSKE and Representative JOHN SHIMKUS.'' The bill phases out the use of MTBE in 3 years, provides assistance to States to clean MTBE pollution, provides refiners flexibility with the oxygen requirement, preserves air quality improvements under the Clean Air Act, and urges refiners to switch to ethanol as soon as possible. ''Similar legislation is contemplated in the Senate.''

Mr. Speaker, I include the letters and the Bulletin for the RECORD, as follows:

RENEWABLE FUELS ASSOCIATION,
Washington, DC, March 15, 2000.

Hon. GREG GANSKE,
House of Representatives,
Washington, DC.

DEAR CONGRESSMAN GANSKE: I am writing on behalf of the members of the Renewable Fuels Association to express the enthusiastic support of the domestic ethanol industry for the Clean Air and Water Preservation Act of 2000. Your bill forthrightly addresses the growing national crisis of MTBE water contamination while preserving the air quality benefits of the RFG program and stimulating rural economies by increasing the demand for clean-burning fuel ethanol.

As you know, I testified earlier this month before the House Commerce Subcommittee on Health and the Environment regarding the reformulated gasoline program and the need to address MTBE water contamination. I noted that the ethanol industry wants to be part of the solution, and outlined four principles that should guide congressional action: Develop a national solution; address the cause of the problem—MTBE; protect the environment, i.e., no backsliding; and, provide the necessary time and ''flexibility'' to allow refiners to make a rational transition to increased ethanol utilization.

Clearly, the Clean Air and Water Preservation Act of 2000 meets each of these objectives. By phasing down MTBE use over three years, the bill protects the water supplies of every citizen, not just those in certain states. The bill's anti-backsliding provisions, particularly the cap on aromatics, assures the current air quality benefits of the RFG program will be preserved. The legislation also provides refiners with significant flexibility and encourages the development of alternative oxygenates so that the transition from MTBE can be made without disruptions in gasoline supplies or increases in price.

Oil prices are rising to record levels. The farm economy continues to suffer. And water supplies from coast to coast are being jeopardized by the uncontrolled use of MTBE. Never has the need for ethanol been greater. We need to protect both air quality and precious water resources. With ethanol, and your legislation, we can. I look forward to working with you to see the Clean Air and Water Preservation Act of 2000 become law.

Sincerely,

ERIC VAUGHN,
President.

NATIONAL CORN GROWERS ASSOCIATION,
Washington, DC, March 17, 2000.

Hon. GREG GANSKE,
House of Representatives,
Washington, DC.

DEAR REPRESENTATIVE GANSKE: I am writing this letter on behalf of the 31,000 members of the National Corn Growers Association in support of your bill entitled the Clean Air and Water Preservation Act of 2000. Your bill embraces many of the principles NCGA believes are important if Congress is going to successfully address the problems surrounding MTBE water contamination across the country.

In addition, NCGA supports the principles in your bill that call for a national solution to the MTBE problem, protection of the environment and public health, and flexibility that allows markets to adjust as the demand for ethanol increases. We enthusiastically support this approach because it recognizes that ethanol is not part of the problem, it is part of the solution. We especially appreciate the support your bill gives to ethanol as a clean oxygenate in the reformulated gasoline program.

With oil prices at their highest levels in many years, it is clear that ethanol not only should be used because it benefits public health, but also because it reduces our dependence on foreign oil.

We appreciate your efforts and look forward to working with you on passage of this important legislation.

Sincerely,

LYNN JENSEN,
President.

GOVERNMENTAL RELATIONS BULLETIN—ACTION REQUESTED

March 21, 2000.

Re Clinton administration takes action on fuel requirements.

To: Presidents, Secretaries and/or administrators, coordinators of national affairs, directors of information, directors of commodity activities, coordinators of natural and environmental resources, area field service directors, park ridge and Washington office distribution.

From: Dick Newpher, Executive Director, Washington Office.

Yesterday, EPA Administrator Carol Browner and Agriculture Secretary Dan Glickman announced proposals that will reduce and ultimately eliminate the use of methyl tertiary butyl ether (MTBE) in reformulated fuels. MTBEs have been blamed in numerous cases of water pollution. The petroleum-based product currently has more than 80 percent of the market for oxygenate additives used in gasoline to comply with the Clean Air Act. Ethanol provides the remainder of the oxygenate additives used in the U.S.

The proposal outlines both a regulatory and legislative strategy. The EPA will proceed with a proposed notice of rulemaking and the Clinton Administration will push for statutory changes in the Clean Air Act to implement the announced changes.

The proposal outlined the following steps:

Amend the Clean Air Act to provide authority to reduce or eliminate the use of MTBE;

Assure that the goals of the Clean Air Act are not diminished; and,

The administration recommends that Congress replace the 2 percent oxygenate requirement in the Clean Air Act with a renewable fuel annual average content for all gasoline at a level that maintains the current use level of renewable fuel (1.2 percent of the gasoline supply).

The standard of 1.2 percent renewable fuels content would be a national average content requirement and would NOT significantly increase the use of ethanol. A better scenario for the ethanol industry would be to retain the two percent oxygenate requirement under the current Clean Air Act because ethanol is the only viable alternative to MTBE. Additionally, there will be substantial political opposition in the Congress to any measure calling for a mandate on renewable fuel content.

AFBF will analyze the proposed rule when it is released sometime in the next few months. However, the main effort will be to work with members of Congress to move legislation that will eliminate MTBE and replace it with ethanol. Farm Bureau supports H.R. 4011, the Clean Air and Water Preservation Act, sponsored by Rep. Greg Ganske (R–IA) and Rep. John Shimkus (R–IL). The bill: (1) phases out the use of MTBE within three years; (2) provides assistance to states to clean MTBE pollution; (3) provides refiners some flexibility with the oxygen requirement; (4) preserves air quality improvements make under the Clean Air Act; and, (5) urges refiners to switch to ethanol as soon as possible. Similar legislation is contemplated in the Senate.

Action requested: State Farm Bureaus are requested to contact their members of the House to cosposnor H.R. 4011.

(Contact: Jon Doggett, jond@fb.org) F:/grb/ethanol00.321

Mr. Speaker, I have also received letters from the Iowa Farm Bureau Federation and the Illinois Corn Growers Association expressing support for H.R. 4011. I include those letters for the RECORD, as follows:

IOWA FARM
BUREAU FEDERATION
West Des Moines, IA, March 16, 2000.

Hon. GREG GANSKE,
House of Representatives,
Washington, DC.

DEAR CONGRESSMAN GANSKE: The Iowa Farm Bureau Federation supports your efforts to ban the use of MTBE and to preserve the oxygenate requirement under the Clean Air Act. The issue of MTBE's negative impact on water quality has elevated this issue in the public's eye. It is imperative that Congress take action to address these concerns.

We believe that a federal ban on MTBE use can be coupled with an expansion of ethanol use. Several states are pushing to waive their participation in the reformulated gasoline program under the Clean Air Act. Farm Bureau strongly opposes such efforts. We believe that ethanol is a good alternative to MTBE and that these states should be encouraged to replace their MTBE use with ethanol.

Your legislation ensures that Iowa farmers will continue to have a role in providing clean air by creating a stronger role for ethanol. We applaud your efforts and look forward to working with you to implement this legislation.

Sincerely,

ED WIEDERSTEIN,
President.

ILLINOIS CORN GROWERS ASSOCIATION,
Bloomington, IL, March 22, 2000.

Hon. — —
House of Representatives,
Washington, DC.

DEAR CONGRESSMAN — — —: We would appreciate your consideration of co-sponsoring H.R. 4011. This bill addresses concerns which have surfaced concerning MTBE contamination of groundwater and continues to maintain a role for ethanol in the Reformulated Gasoline Program (RFG) of the Clean Air Act.

H.R. 4011 was introduced by Congressman Shimkus (IL) and Congressman Ganske (IA) and has bi-partisan support from downstate Illinois Congressmen co-sponsoring the Bill for the following reasons:

1. This bill addresses the problems with MTBE by banning MTBE within three years and requiring labeling of MTBE on gasoline dispensers in the interim. The Chicago City Council, led by the efforts of Alderman Bernard Hansen, has unanimously passed a resolution asking for a ban on MTBE use in our largest city because of the environmental implications.

2. This bill gives refiners flexibility in blending oxygen and meeting the oxygenate requirement of RFG without eliminating the requirement and hurting the ethanol market. Ethanol is critical to the success of the state's agricultural economy. Ethanol uses 160 million bushels of corn to supply the Chicago metro market alone. This market results in an additional 10 cents per bushel for all the corn sold in Illinois, according to the Illinois Resource Allocation Model. This sophisticated computer model is operated by the U of I Agricultural Economics Department.

3. Lastly, H.R. 4011 prohibits environmental backsliding by raising the standards on emissions reductions and prohibiting an increase in the use of gasoline aromatics (which can lead to cancer-causing particular emissions).

For these reasons, farmers in Illinois need your help. Please consider co-sponsoring H.R. 4011.

Sincerely,

LEON CORZINE,
President.

□ 2320

Mr. Speaker, this is good agricultural policy. This is good environmental policy. Now, despite the benefits of ethanol for the Nation's air quality, water quality, and agriculture, some groups have decided to question ethanol. Those detractors include some well-known environmental groups, like the Sierra Club, the Natural Resources Defense Council, two groups that also consistently extol the virtues of renewable fuels. Well, let us go into this in some detail.

In yesterday's Washington Post a spokesperson from the NRDC said, ''Ethanol, when combusted forms formaldehyde and other by-products which pose potential public health threats.'' According to the article, some ''scientists'' claim that very few studies have been done on the health effects associated with inhalation of ethanol vapors. I would like to address these allegations.

First of all, ethanol does not produce formaldehyde. MTBE produces formaldehyde. NRDC sites as their reference a study submitted to the California legislature entitled ''An Evaluation of the Scientific Peer Review Research and Literature on the Human Health Effect of MTBE, its Metabolites, Combustion Products and Substitute Compounds.'' However, in another report, ''Air Quality Impacts on the Use of Ethanol in California Reformulated Gasoline,'' the California Environmental Protection Agency's Air Resources Board states, ''The major products of concern for ethanol are acetaldehyde and peroxyacetyl nitrate, an eye irritant. These compounds are offset by reductions in formaldehyde.''

Let me repeat that. The California Environmental Protection Agency directly contradicts a statement by the NRDC by saying that some products from the burning of ethanol produce acetaldehyde and certain nitrates, but that those compounds are offset by reductions in formaldehyde due to the elimination of MTBE. So it appears that NRDC was mistaken.

There have also been allegations that ethanol produces what is called ETBE, ethyl tertiary butyl, ether when run

through a combustion engine. Once again, that is not true. Ethanol can be used to produce ETBE, but that would require additional components and a catalyst for a chemical reaction, and that does not occur in the internal combustion engine.

Associated with that statement is speculation that ethanol's increased volatility will increase hydrocarbon emissions, thereby posing an increased inhalation hazard. Well, Mr. Speaker, research evaluating ethanol blended fuel and nonethanol fuel has shown that while the evaporation rate for ethanol blended gasoline was increased, less hydrocarbon was volatilized relative to nonethanol fuel. It was determined the increased evaporation of ethanol blended fuel was due to the evaporation of the ethanol itself.

Another statement contained in yesterday's Post concerned health implications associated with the inhalation of ethanol. Well, Mr. Speaker, I am a physician. I have looked at this in some detail. Now, those ''some scientists'' may be right that there has not been a great amount of research done on the project, but ethanol is a naturally occurring compound which is found in very low levels in the blood and the breath of humans, even those who do not drink alcohol. The available scientific literature shows that there is a low risk of harm from ethanol inhalation. That can be attributed to the rapid metabolism of ethanol and the difficulty of significantly raising blood ethanol concentrations through breathing.

I have here a report by Cambridge Environmental Incorporated entitled ''Ethanol: A Brief Report on Its Use in Gasoline.'' Mr. Speaker, I would like to submit this for the RECORD at this point as well.

ETHANOL—BRIEF REPORT ON ITS USE IN GASOLINE

(By Sarah R. Armstrong, M.S., M.S.)

INTRODUCTION

The purpose of this short paper is to summarize information about ethanol's health and environmental effects, given ethanol's use as a fuel oxygenate. The conclusions are: (1) ethanol is readily degraded in the environment; (2) anticipated human exposures to ethanol are very low; and (3) voluminous information on metabolism of ethanol by humans, and on the health effects of ingested ethanol, strongly suggests that environmental exposures to ethanol will have no adverse health impact.

ENVIRONMENTAL BEHAVIOR

Recent reviews of the environmental behavior of gasoline oxygenates generally note that ethanol is not likely to accumulate or persist for long in the environment. For example, the Interagency Assessment of Oxygenated Fuels (NSTC, 1997) observes that ethanol is expected to be rapidly degraded in groundwater and is not expected to persist beyond source areas. Ethanol in surface water is also expected to undergo rapid biodegradation, as long as it is not present in concentrations directly toxic to microorganisms (NSTC, 1997; Malcolm Pirnie, Inc., 1998). The half-life of ethanol in surface water is reported to range from 6.5 to 26 hours (Howard et al., 1991). Atmospheric degradation is also predicted to be rapid (Malcolm Pirnie, Inc., 1998).

In part, expectations of ethanol's degradability rely on experiments that use microcosms of groundwater and soil mixtures to demonstrate that ethanol is rapidly degraded both aerobically (100 mg/l in 7 days, Corseuil et al., 1998); and anaerobically (100 mg/l in 3 to 25 days, depending on conditions, Corseuil et al., 1998; 96 mg/l within 30 days, Suflita and Mormile, 1993; 100 mg/l within 14 days, Yeh and Novak, 1994). In these experiments, ethanol generally delays degradation of BTX, but not always, and some investigators (Corseuil et al., 1998) caution against generalizations about ethanol's effect.

HEALTH EFFECTS

Ethanol, the active ingredient of alcoholic beverages, has been part of the human diet—and the human environment—for thousands of years. It is produced by fermentation by fungi and other microorganisms, and is found at low levels in the blood and breath of persons who do not drink alcohol. Biological exposures and responses to ethanol are typically evaluated in terms of the blood concentrations, where the units of concentration are milligrams of ethanol per deciliter of blood, or mg/dl. Some blood ethanol concentrations (BEC) and associated effects are shown in Table 1. Endogenous blood levels of ethanol range from non-detectable to 0.02 mg/dl to 0.15 mg/dl (Jones, 1985; Lester, 1962). A typical alcoholic beverage contains 12 g of alcohol, corresponds to a dose of about 170 mg/kg for a 70-kg adult, and produces a peak blood ethanol concentration on the order of 25 mg/dl. Legal limits on blood alcohol for drivers of vehicles are typically 80-100 mg/dl.

Ethanol is widely ingested in alcoholic beverages, usually with only mild effects. However, at sufficiently high doses, ethanol can cause toxic effects in humans, both short-term (such as inebriation) and long-term (such as cirrhosis of the liver). If ethanol becomes a common fuel additive, there may be opportunities for exposure by inhalation: ethanol vapors might be inhaled at gasoline stations or in automobiles, for example. Thus, concern has been raised about the possible health consequences of using ethanol for this purpose.

The scientific literature contains virtually no reports of injury to humans from inhaled ethanol. The apparent lack of harm may be attributable to rapid metabolism of ethanol and the difficulty in significantly raising blood ethanol concentrations by inhalation exposure, which keep internal doses extremely low except in unusual situations, such as heavy exercise in the presence of concentrated vapors. The occupational standard for ethanol in air is 1000 ppm (1900 mg/m^3) on an eight-hour basis. The occupational experience with ethanol in air appears to be favorable: no symptoms at levels below 1000 ppm are reported: at this or higher concentrations, ethanol vapor causes eye and upper respiratory tract irritation, fatigue, headache, and sleepiness (ACGIH, 1991; Clayton and Clayton, 1994). No reports regarding chronic exposure of humans to ethanol vapors have been located.

Laboratory animals, chiefly rats, have been subjected to inhalation exposure in a variety of experiments, most investigating aspects of central nervous system or developmental toxicity. The majority of exposures have been short-term, of less than two weeks, but many of these were continuous. The study of longest duration, 90 days, also used the lowest concentration of ethanol, 86 mg/m^3 (45 ppm); otherwise, experimental designs typically produced atmospheres of thousands of mg/m^3 (or ppm), frequently in order to develop ethanol dependence. Blood ethanol concentrations were often, but no always, determined. The great majority of BEC measurements were above 100 mg/dl.

The paucity of direct evidence regarding the possible effects of inhaled ethanol does not mean, however, that the possible consequences are unpredictable. In fact, the data strongly suggest that exposure of the general public to ethanol vapors coming from oxygenated gasoline is very unlikely to have any adverse consequences. While there is little, if any data, on the toxicity of ingested ethanol itself in humans, it is generally accepted that the vast literature on the effects of alcoholic beverages is highly relevant. Alcohol abuse is a significant medical and social problem, and is the impetus for most research into ethanol toxicology, both in humans and Experimental animals. A consequence of this is that little experimental data address the levels of internal exposure that can be reasonably anticipated to result from using ethanol as an oxygenate. A second motivation for experimental work in ethanol is fetal alcohol syndrome (or fetal alcohol effects) which, in theory at least, could be caused by relatively brief maternal exposures to ethanol during pregnancy.

Since ethanol's important toxic effects require that the material first enter the bloodstream, one can evaluate inhalation exposures in terms of the blood alcohol concentrations they would produce. Prediction of BEC following exposure to ethanol vapors must consider several factors; (a) the concentration of ethanol in air, (b) the duration of exposure, (c) breathing rate, (d) absorption of ethanol across the lungs, and (e) the body's elimination rate of ethanol. Two of these factors are more or less constant in every situation. Experiments in humans have shown that from 55% to 60% of inhaled vapors are absorbed into the bloodstream (Kruhoffer, 1983; Lester and Greenberg, 1951). The rate of clearance of ethanol from the blood (V_{max}) is about 15 mg/dl/hr (Pohorecky and Brick, 1987) but may be as high as 23 mg/dl/hr (Holford, 1987); these rates correspond to elimination of 83 mg/kg/hr to 127 mg/kg/hr, or about 6 to 9 g of ethanol per hour for an adult. For comparison's sake, it should be noted that a single alcoholic drink contains about 12 g of ethanol (IARC, 1988).

As long as a person's intake of ethanol does not exceed V_{max}, blood alcohol levels will stay low. In table 2 are shown the intake rates for ethanol inhaled under a variety of conditions, assuming absorption across the lungs of 55% and a standard body weight of 70 kg. In bold type are intakes above 83 mg/kg/hr, the lower estimate of alcohol clearance: exposure under these conditions could lead to an accumulation of ethanol in the blood and a rising BEC. Under the other conditions given, the body's ability to eliminate ethanol is not exceeded, and BEC levels would remain below toxic levels.

The calculations suggest that exposure to ethanol vapors that are irritating to the eyes and mucous membranes, while uncomfortable, would not cause a significant rise in BEC in persons at rest. As actively increases, ethanol increases, but vapor concentrations would need to exceed the occupational limit by a substantial margin in order to cause a rise in BEC. Some experimental work demonstrates that significant uptake of ethanol through the air is unusual, or difficult, as shown in Table 3. Moderate activity in the presence of irritation vapors is required.

POSSIBLE INHALATION EXPOSURES TO ETHANOL DUE TO USE IN GASOLINE

Opportunities for inhalation exposure of the general public to ethanol used as gasoline oxygenated include vapors inhaled while fueling vehicles and ambient air. The first sort of exposure would be relatively brief, no more than five minutes, perhaps, while the second could last for many hours. These scenarios are considered in more detail below.

Very limited investigations of personal exposures during refueling have so far failed to detect ethanol, where detection limits were 50 ppm or less (HEI, 1996). If refueling involved five-minute exposures at the occupational limit of 1,000 ppm, an adult might receive an ethanol dose of 0.13 g (about 2 mg/kg). Such an exposure might increase BEC by about 0.3 mg/dl, at most. Exposure to such a high level of ethanol is unlikely. The Health Effects Institute evaluated hypothetical exposures of 1 ppm for three minutes and 10 ppm for 15 minutes, and determined that incremental changes in BEC would be insignificant (HEI, 1996).

Data on ambient air concentrations of ethanol are few. The average ambient level in air in the city of Porto Alegre, Brazil, where 17% of vehicles run entirely on ethanol, is 12 ppb (0.023 mg/m^3) (Grosjean et al., 1998). The lowest concentration of ethanol tested for toxicity in animals was almost 4,000-times greater than this (86 mg/m^3, 45 ppm). A person might receive half a milligram of ethanol per day from ambient air containing 12 ppb of ethanol, a negligible dose.

OTHER HEALTH EFFECTS ISSUES

Some of ethanol's known or suspected toxic effects have not been, or can not be, quantified in terms of BEC. Fetal alcohol syndrome (FAS), for example, is constellation of physical and mental deficiencies in children linked to maternal alcohol ingestion. Risk of FAS is a function of alcohol intake during pregnancy: the frequency of this syndrome is twice as great for children of heavy drinkers as for children of moderate or non-drinkers (Schardein, 1993). While it may be prudent to abstain from alcohol during pregnancy, a risk from daily consumption of less than 30 g of alcohol has not been proved (Schardein, 1993). Cancer of certain organs has been observed to occur at elevated rates in some groups of drinkers—the World Health Organization, for example, has linked alcohol consumption to cancer of the oral cavity, pharynx, esophagus, larynx, and liver (IARC, 1988). In almost all of the studies, risks were observed among alcoholics or were seen to increase with consumption.

Finally, if we look to human experience with alcohol consumption for information regarding toxic effects of ethanol, it is fair also to look at the evidence for possible health benefits. Numerous epidemiologic studies have observed that light-to-moderate drinkers of alcohol have lower mortality rates than either alcohol abstainers or heavy drinkers. Reduced mortality is due to decrease rates of fatal coronary heart disease and cardiovascular disease. To be sure, the picture is complicated, varying by sex, age, and disease risk factors, and competing causes of death. We are not suggesting that low-level exposures to ethanol due to its use as an oxygenate is desirable. At the least, however, the apparent beneficial effects of alcohol (or ethanol) for some cohorts should be recognized.

CONCLUSION

It is highly unlikely that exposure to airborne ethanol associated with gasoline use could produce toxic effects. The reasons for this are (a) the tiny doses that might be received, which might not be observable in light of endogenous levels of ethanol in blood, (b) the body's rapid elimination of ethanol, and (c) the relatively large doses of ethanol and high blood levels of ethanol associated with toxic effects in people. No data in the scientific literature support the hypothesis that chronic exposure to non-irritating levels of ethanol in air could cause significant elevation of BEC (unless exposed individuals are exercising at the time), or that a risk of cancer or birth defects would be created. A recent survey of the literature regarding the inhalation toxicity of ethanol by the Swedish Institute for Environmental Medicine reached similar conclusions, namely that ''a high blood concentration of ethanol is needed for the development of adverse effects'' and ''ethanol at low air concentrations should not constitute a risk for the general population (Andersson and Victorin, 1996).

TABLE 1.—ETHANOL DOSE-RESPONSE DATA

BEC (mg/dl)	Observation	Reference
0.02–0.15	Endogenous (i.e. natural) level	Jones, 1985; Lester, 1962.
50	Central nervous system stimulant; talkativeness; relaxation	Pohorecky and Brick, 1987.
100	Legal limit for automobile drivers in many states	
>100	Central nervous system depressant; decreased sensory and motor function; decreased mental and cognitive ability	Pohorecky and Brick, 1987.
110	No effect on heart function	Pohorecky and Brick, 1987.
140	No effect on cerebral blood flow; effects occur above this level	Pohorecky and Brick, 1987.
300	Stupefaction	Pohorecky and Brick, 1987.
400	Possible lethal level	Pohorecky and Brick, 1987.

TABLE 2.—INTAKE RATE OF ETHANOL UNDER VARIOUS EXPOSURE CONDITIONS

Ventilation rate (l/min)	Intake rate of ethanol (mg/kg/hr) when the concentration in air is (mg/l)				
	1.9 (occupational standard)	5	10 (causes coughing and eye irritation; adaptation occurs)	20	30 (causes continuous lacrimation)
6 (rest)	5	14	28	57	85
25 (moderate activity)	22	59	118	236	354
40 (heavy activity)	36	94	189	377	566
50 (very heavy activity)	45	118	236	471	707

TABLE 3.—EXPERIMENTAL STUDIES OF VAPOR UPTAKE BY HUMANS

Ventilation rate (l/min)	Concentration of ethanol in air (mg/l)	Duration of exposure (hrs)	BEC (mg/dl)	Symptoms	Reference
Rest (approx. 6)	1.9	3	<0.2	None reported	Campbell and Wilson (1986).
15	15		Steady at 7–8	Vapors irritating but adaptation occurred; no intoxication	Lester and Greenberg (1951).
22	16	6	47 and rising	Vapors irritating but adaptation occurred; no intoxication	Lester and Greenberg (1951).
Rest (approx. 6)	Maximum of 17 average approx. 9	2.5	<5	Vapors irritating but adaptation occurred; no intoxication	Mason and Blackmore (1972).

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Mr. GANSKE. Mr. Speaker, that report succinctly addresses the health risks associated with ethanol inhalation, and I would like to read a couple of excerpts from the report.

The occupational standards for ethanol in air is 1,000 parts per million on an 8-hour basis. No symptoms at levels below 1,000 parts per million are reported. At this or higher concentrations, ethanol vapor may cause eye and upper respiratory tract irritation, fatigue, headache or sleepiness.

But then it goes on to say,

Data strongly suggests that exposure to the general public to ethanol vapors coming from oxygenated gasoline is very unlikely to have any adverse consequences.

Ethanol vapors only affect the health of an individual if the blood ethanol content reaches a level associated with intoxication. Most definitions of legal intoxication are about 80 milligrams per decaliter. In order for that to occur, the inhalation rate of ethanol vapors would have to exceed the rate at which the body eliminates ethanol from the blood stream. Conservative estimates place that elimination rate at 83 milligrams per kilogram per hour.

Tests show that within the occupational standard ethanol concentration level of 1.9 milligrams per liter, a person could engage in heavy activity with a ventilation rate of 50 liters per minute and still only intake vapors at a rate of 45 milligrams per kilogram per hour, far below the rate of blood metabolism. Only when the concentration of ethanol in the air begins to significantly increase does the intake rate begin to supercede the elimination rate.

According to these studies, even concentrations that would irritate the eyes would not cause a significant rise in blood ethanol concentrations. Only under highly elevated concentration levels, combined with at least moderate activities would the blood ethanol concentration exceed the elimination rate. The real world experience shows that that is just not going to happen.

A study done in Brazil, which uses ethanol in almost all of its gasoline, indicates that the ambient air concentrations of ethanol are far below the occupational standard of 1,000 parts per million. In fact, in Porto Alegre, where 17 percent of vehicles run on 100 percent ethanol, the ambient air concentration is only 12 parts per billion. The lowest concentration of ethanol tested for toxicity in animals was 4,000 times greater than this concentration.

We can rest assured that ethanol inhalation will not be a health problem, Mr. Speaker.

There are several other allegations circulating about the negative attributes of ethanol, and I would like to address a couple of these today. Some have said that ethanol is not energy efficient. I beg to differ.

I have a report issued by the Department of Agriculture's Office of Energy in July 1995 that says ethanol produces 25 percent more energy than is required to make it. This estimate incorporates the energy required to till the fields, plant the corn, run the combine to harvest the product, mill the corn and produce the ethanol. A 25 percent net energy gain.

Another study, this one by the Institute for Local Self-reliance, says the net energy gain is higher than that. If you take into consideration all energy inputs required to grow corn, like fertilizer, pesticide, irrigation, transport, and process it into one gallon of ethanol, total energy inputs are about 81,000 Btus. In return, one gallon of ethanol provides about 84,000 Btus of energy.

But if you also consider the energy associated with other by-products of ethanol production, such as high protein feed grain, total energy output potential is about 111,000 Btus, or a 38 percent net energy gain.

□ 2330

That is based on industry averages. Furthermore, that study reported that if farmers are using state-of-the-art agriculture practices, they can significantly reduce their own energy inputs and they can raise the net energy gain to 151 percent.

Mr. Speaker, ethanol is a very energy efficient product. Now, some have argued that ethanol makes no sense outside of the Midwest because it is difficult and expensive to transport. Now, it is true that transporting ethanol by pipeline may not be an option.

But the Department of Agriculture's report, which I mentioned earlier and is now a part of the RECORD, details the likely distribution of ethanol. ''Given a period of 3 to 5 years, there appears to be no transportation impediment to the use of ethanol as a replacement for MTBE.''

The most likely distribution scenario is that corn ethanol from the Midwest would travel by freighter or by rail. But I have to remind any colleagues that corn is not the only product being converted into ethanol, and the Midwest is not the only potential source for ethanol production. Ethanol is being produced from 27 different raw materials throughout the Nation. It can be produced by cellulose, bio-mass, municipal waste.

In California there is a product to convert rice straw into ethanol, thereby providing an alternative to sending that by-product to landfill. The potential, Mr. Speaker, is enormous.

But even while those other sources are being developed and perfected, we have evidence that ethanol can be transported successfully throughout the Nation. Getty Petroleum proves that.

Last year, Getty switched its 1,200 stations located throughout 12 northeast States from MTBE to ethanol in a transition which the company described as ''seamless.''

Getty wrote to California Governor Gray Davis in September 1999. They said,

Virtually every one of our terminals is capable of receiving gasoline products, including ethanol, by either rail or barge. Receiving products in this way as opposed to pipeline shipment is not problematic. I can tell you, for example, that receiving water-borne tank-loads of ethanol is no different from receiving water-borne shipments of gasoline. It is done all the time and represents no additional burden to gasoline marketers. Blending equipment for gasoline additives exists at every fuel terminal in the country. Merely augmenting those systems to allow for ethanol blending is neither complex nor time consuming. I see no reason why my experience in the northeast is unique and could not be duplicated in California.

Well, Mr. Speaker, Getty's experience tells us ethanol can be supplied throughout the Nation. In addition, I have learned of experiments in which petroleum companies are trying to pipe ethanol. To do that and to prevent water absorption, they send a slug of gasoline followed by a slug of ethanol followed by another slug of gasoline. The components are then blended near the point of final dispersion.

This may be a new method for transporting ethanol. But we have to remember, the petroleum industry is very innovative, they will find a way. But I would like to ask my colleagues to consider one thing. What happens if we continue to ship MTBE by pipeline, and let us say that pipeline breaks somewhere and we have thousands, maybe tens of thousands, of gallons of MTBE soaking into the ground and contaminating the water? That would be an environmental disaster.

Finally, let me say a third of MTBE use in America comes from the Middle East. I find it hard to believe that transporting MTBE from Saudi Arabia is more cost effective and less difficult than transporting ethanol from Iowa. And with ethanol, we do not need to

station a carrier, battle group on the Mississippi River to protect our supplies.

Some have also claimed that ethanol will ruin modern vehicle engine components. That is just baloney. Studies have shown the use of ethanol in motor fuels does not produce mechanical problems. In fact, currently all vehicle manufacturers approve the use of up to 10 percent ethanol blended fuels. Modern fuel system components are designed to ensure that they are compatible with a wide range of fuel formulations.

In fact, the oil company Mobil says that ethanol keeps fuel injection systems clean so they perform better.

Mr. Speaker, this brochure issued by Mobil discusses many of the benefits associated with ethanol blended fuels. Some of the key points conclude ethanol is safe to use in any type of engine. Ethanol will help vehicles run in the winter. Ethanol produces significant reductions in both carbon monoxide and hydrocarbon tailpipe emissions. Using ethanol blended fuel is one of the easiest ways you can help reduce air pollution and our dependence on foreign oil.

Mr. Speaker, this is a brochure put out by Mobil. It says, ''why is ethanol good for your car?'' Well, the oil industry has spoken and it is clear that it believes that ethanol is a good fuel additive.

I would like to note, since ethanol was introduced in the late 1970s, Americans have driven more than 2 trillion miles with ethanol renewable fuel.

Mr. Speaker, the MTBE clean water/clean air quandary requires a comprehensive and sensible approach. It is not just one issue. It is several issues. My bill addresses them all. It phases out MTBE in 3 years and replaces it with ethanol. H.R. 4011 helps States clean up existing MTBE water contamination. It protects air quality by raising the standards for emissions and aromatic content. It spurs the development of additional oxygenates to ensure continued water and air quality. It contributes to our energy security by promoting the expansion of domestically produced renewable energy. It is the solution that this Congress has been looking for for many years.

Mr. Speaker, I include for the RECORD this Mobil brochure:

WHY IS ETHANOL GOOD FOR YOUR CAR?

Did you know . . .

Last year over 10% of all gasoline in the United States contained ethanol.

Fuel with 10% ethanol has been certified by the Environmental Protection Agency to reduce carbon monoxide emissions by up to 30%.

Since 1981, over 152 billion gallons of ethanol blends have been used in the United States. With an average mileage of 20 mpg, that is over 3 trillion miles of proven experience with ethanol blends.

Mobil goes to great lengths to ensure that we deliver to you the best quality gasoline available—with or without ethanol. All of our gasoline meets or exceeds the specifications of the federal government and the American Society for Testing and Materials. In many cases we will use ethanol to oxygenate our gasoline in order to help meet clean air goals and reduce emissions. Like our customers, we believe in doing our part to protect our planet's natural resources and our environment.

Ethanol . . . Engine friendly, Clean burning, American made . . . Power.

Q. How will ethanol affect my engine?

A. Ethanol is safe to use in any type of engine. Ethanol is covered under warranty by every automaker that sells cars in the United States. It's safe to use in your car, truck, motorcycle or any other engine. In fact, many automakers actually recommend reformulated gasolines like those that contain ethanol.

Tests have concluded that ethanol does not increase corrosion, nor will it harm any seals or valves.

Q. Will ethanol plug my fuel filter?

A Generally no. You can feel safe using ethanol. Ethanol is a very clean burning fuel that has some detergent properties.

These detergents work to reduce build-up and keep your engine running smooth. In fact, using ethanol may even improve the performance of your vehicle.

Q. How will ethanol affect my fuel injection system?

A. Ethanol helps keep fuel injection systems clean so they perform better. Problems with fuel injection plugging are the result of dirty fuel—not ethanol. Some gasolines today do not, by themselves, contain enough detergent additive. Therefore, ethanol is also valuable as a cleaning agent that helps prevent problems.

Q. Will using ethanol help me during the winter?

A. Yes. The ethanol recommended for use in motor fuels is an anhydrous, or water-free additive. It absorbs moisture and helps prevent gas-line freeze-up in cold weather. It works much like gasline antifreeze that some motorists add to their gas tanks in the winter.

Using ethanol-blended fuel in the winter means you won't need to add expensive and possibly harmful additives to your fuel. Ethanol in your gasoline will protect your vehicle from gas-line freeze-up.

Q. Does ethanol help reduce air pollution?

A. Yes. There is a significant reduction in both carbon monoxide and hydrocarbon tailpipe emissions when ethanol is used. Many cities and states across the nation take advantage of the environmental benefits that ethanol provides. These cities include Chicago, Denver, Milwaukee and Minneapolis.

Ethanol is used in virtually every state in the nation, from Alaska to Florida and from California to New York. For the United States, ethanol-blended fuels offer the promise of cleaner air. Ethanol is an abundant new source of energy for the future that also helps conserve natural petroleum resources.

Q. What is ethanol?

A. Ethanol is a clean burning, renewable, domestically produced product made from fermented agricultural products such as corn.

Ethanol contains oxygen, which helps gasoline burn cleaner and more efficiently. When used in vehicles, ethanol reduces all types of emissions including carbon dioxide—a major contributor to global warming.

Although burning ethanol releases carbon dioxide during its production and combustion, the crops that ethanol is produced from absorb that carbon dioxide. So, during ethanol production, greenhouse gases do not build up in the environment—they are naturally recycled.

Q. What does research say about ethanol-blended fuels?

A. The American Institute of Chemical Engineers compared ethanol fuel to straight gasoline. In a published report, the institute said ethanol was ''very similar in driving characteristics to straight gasoline, except that pre-ignition and dieseling (run-on) are noticeably reduced and acceleration can be improved'' with ethanol.

The report continued, ''Ethanol should be looked at as an octane enhancer. Mixing it with gasoline in a 9 to 1 ratio improves the octane rating about three octane numbers.'' There have been many other tests of ethanol during the past 20 years. Those tests found ethanol completely safe to use in all types of engines.

THE CLEAN AIR CHOICE

Using ethanol-blended fuel is one of the easiest ways you can help reduce air pollution and our dependence on imported oil. While many solutions for improving our nation's air quality are being debated, ethanol is here today. Using ethanol-blended fuels in your car, outboard motor, lawnmower, chainsaw, snowmobile and other small engines can make a difference now.

Mr. Speaker, Congress should pass this bill. We would be making good sound policy decisions. We would be benefiting America's environment. We would be helping America's farmers, and we would be addressing our Nation's energy needs.

I urge my colleagues to join me in supporting a comprehensive solution that does not force us to choose between clean air and clean water. I urge my colleagues to cosponsor H.R. 4011. I will be happy to share any additional information with them.

RECESS

The SPEAKER pro tempore (Mr. KUYKENDALL). Pursuant to clause 12 of rule I, the Chair declares the House in recess subject to the call of the Chair.

Accordingly (at 11 o'clock and 37 minutes p.m.), the House stood in recess subject to the call of the Chair.

□ 0317

AFTER RECESS

The recess having expired, the House was called to order by the Speaker pro tempore (Mr. DREIER) at 3 o'clock and 17 minutes a.m.

REPORT ON RESOLUTION PROVIDING FOR CONSIDERATION OF H. CON. RES. 290, CONCURRENT RESOLUTION ON THE BUDGET—FISCAL YEAR 2001

Mr. GOSS, from the Committee on Rules, submitted a privileged report (Rept. No. 106–535) on the resolution (H. Res. 446) providing for consideration of the concurrent resolution (H. Con. Res. 290) establishing the congressional